Environmental Restoration Contractor **ERC Team**

Meeting Minutes

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SUBJECT GW/VZ INTEGRATION PROJECT WEEKLY MEETING - OCTOBER 19, 1998

TO Distribution

FROM Michael J. Graham, GW/VZ Project Manager

DATE October 22, 1998

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NEXT GW/VZ INTEGRATION PROJECT WEEKLY MEETING:

Date: October 26, 1998
Location: Pacific Northwest National Laboratory (PNNL), Environmental Technology Building, Columbia River Room
Local Call In Number: (509) 376-7411
Toll Free Call In Number: (800) 664-0771

MEETING MINUTES:

A Groundwater/Vadose Zone (GW/VZ) Integration Project Weekly Meeting was held on October 19, 1998, in Richland, Washington, at Pacific Northwest National Laboratory, Environmental Technology Building, Columbia River Room.

PROJECT REPORT:

PROJECT SPECIFICATION DOCUMENT (TONY KNEPP): The question is "where are we?" We've broken the submitted comments into policy issues and technical issues. The policy issues went to the Policy Group, and we're hoping to contact Dib Goswami and Dave Holland to set up a meeting to close on the technical comments.

COMMENT: Dib and Dave need to set a time together and they will get back with Tony on Tuesday to make arrangements for a meeting.

QUESTION: Is the Project Specification a document that is out for public review?

ANSWER: Yes, it has been out for a couple of months (released August).

QUESTION: Is Ecology the only group you need to meet with to resolve these issues?

ANSWER: The Environmental Protection Agency (EPA) and one stakeholder also sent us some comments, but we already have them incorporated.

VADOSE ZONE (VZ) MONITORING PLAN (PNNL-11958) (DOUG HILDEBRAND): We took the action at the last meeting on October 5 to report back on this document because of the questions raised including its relation to the Detailed Work Plan (DWP.) The package I am sending around is a kind of chronology. The first portion is pages 6-15 through 6-21 straight out of Fiscal Year (FY) 98 Planning.

QUESTION: Has this scope changed since the initial presentation?

ANSWER: No, it comes directly from the FY98 DWP. This is not the FY99 DWP that was just reviewed. The scope for a Vadose Zone Modeling Plan is located on page 6-17 under "Tasks to be Performed (FY98)." It says that "tasks include the development of site-specific monitoring plans."

COMMENT: I was looking the DWP over and I believe the cost for this scope is $379K for next three years. It shows 20 spectral gamma logs planned.

RESPONSE: The FY98 DWP said 22. The cost assumption was $1.8K per well.

COMMENT: OK, so we are going to get 22 wells logged, but my figures come out to about $37K per well.

RESPONSE: There is much more scope in that task besides the wells. We'll get you the details if you want them. They put together a database of 245 wells logged between 1990 and 1997. They looked at wells at specific cribs and then developed a plan to monitor other selected ponds, cribs, and ditches. All together it comes to about an additional $26K per well including all the scope.

QUESTION: In FY99 they aren't going to have to create the database or develop the plan again. Why is the cost so much?

ANSWER: If you could turn to the next page and look at the FY99 DWP, area 2 of page 1 lists the "Major Products and Deliverables."

QUESTION: There was a lot of scrutiny for tank farms. Work needed to be looked at to make sure it was technically sound and feasible. Have you run this by the Expert Panel so they can have a look at this to make sure it's technically feasible, and to make sure that they agree on the principles involved, just like the tank farms?

ANSWER: No, that has not been done. It is covered under the auspices of Department of Energy (DOE) 94.1. I have additional copies of the plan, and a task for FY99 is to look at the appendices by August and to prepare what's appropriate.

COMMENT: Dirk Dunning and Casey Ruud would like to see it.

COMMENT: I think there is another thing to be raised here. I saw this VZ Plan two days before the Portland Conference, and I showed it to Under Secretary Moniz because I thought it was a really good example of what's wrong with this project. This plan is garbage. You should be ashamed. I'm surprised that the guys that wrote this put their names to it. It has obviously not been internally reviewed. Tony Knepp, you and Karl Fecht are involved in the integration, how could you let something like this go out? There are things that are technically wrong. It's horribly biased. Tell me where I'm wrong.

RESPONSE: If you would submit your comments, we can take a look at them.

COMMENT: I have not been given the money for my time to thoroughly review this and I don't really have the authority. It says that Pulse Neutron logging is available. You are referring to this old report that was done that produced nothing, and has shown to be all screwed up. There is a document that says we can do this with spectral gamma logging. It even seems that they go out of their way to not reference some of the research I've done.

RESPONSE: So part of the problem is that this plan didn't reference your materials?

COMMENT: That's part of it, but it is so much more than that.

RESPONSE: It sounds like we need to set up a meeting to have people take a look at this. (Ron Skinnarland)

COMMENT: It's symptomatic of what's wrong. There is no integration.

RESPONSE: I agree. Give us the opportunity to set up a meeting to address this.

COMMENT: I just don't want this to become a part of the total program before it comes through this group for review.

RESPONSE: We have a Expert Panel meeting come up. Maybe we can bring it up there.

RESPONSE: Is there any problem with letting us all catch up on this, and talking about it then? That way we can have opinions from everybody.

COMMENT: Stan Sobczyk wants a copy.

CENTER FOR RISK EXCELLENCE (TONY KNEPP): The Center for Risk Excellence (CRE) is a group that is an arm of DOE and is headed by Al Young, based in Chicago. There are a couple of representatives coming out tomorrow to help facilitate the definition of risk and health effects, methodologies, and the communication of risk and health effects. There will be at least one person from this organization on site for the next one to two months. The purpose is to bring in some national expertise to bring together a plan. We're hoping there will be a seamless meshing between their organization and ours. The reason they are coming is to get a feel for the Project in general.

QUESTION: Is Pam Doctor coordinating this?

ANSWER: We're still working on coordinating it. This is all so new, but that's the person we want to be the lead on this.

COMMENT: It looks like this could be a real opportunity to have people brought in from outside of Hanford. It would add credibility.

QUESTION: Are they experts in Hanford risk issues or just risk in general? I've been involved in things where experts in a certain discipline have been involved with things like this, and while they were wonders when dealing with their area of expertise, they've been a liability when dealing with things outside of their focus.

ANSWER: The intent is to have one or two people brought out, have them begin to get up to speed on the Project's challenges in general, have them meet with the various groups, and give them a briefing on Hanford site geology, geochemistry, and hydrology.

QUESTION: Is there an agenda for these meetings?

ANSWER: This isn't an open meeting kind of thing. They have already agreed to work with us, and this is just to get us together as a working team.

QUESTION: Are they planning on talking to the Core groups as well?

ANSWER: Yes, one of the tasks they are charged with is to communicate tasks with everyone.

QUESTION: Can we go back to the VZ monitoring for a minute? This is bothering me. This is $379K per year outside of any regulatory drivers. This is a DOE Order that is not in the Tri-Party Agreement (TPA) or anything else.

RESPONSE: This is covered under DOE Order 54.1.

COMMENT: The concept that this is driven by regulatory concerns is not quite accurate. The regulatory driver for this kind of thing is not a direct driver that says "thou shalt not do this." In order to get to a feasibility study, you have to understand migration. It is a part of the big picture. If you are looking for something that says "do this, do that" then it becomes a little fuzzier.

COMMENT: Let's get back to the risk topic. We are currently working on defining the roles and products for the CRE. We want a group of nationally recognized risk experts out there to work on this.

RESPONSE: This was a direction from DOE Headquarters (HQ), and is something the project needed. Moniz wanted this to happen here. Mark Bollinger and Loren Habegger are going to be here tomorrow and Al Young will be here Thursday.

COMMENT: My concern is that these things only bring a sprinkling of holy water and not much else.

UPDATES FROM WORKING GROUPS

Policy Work Group Update (Dru Butler)

The Policy Group had a meeting last week where we worked on a few key issues. We are working on accountability and how the project has authority to affect work on site. Rich Holten has the lead on that. The other issue we added was regulatory drivers and framework. Casey Ruud has the lead on that. We are meeting today immediately after this meeting.

System Assessment Capability (SAC) Work Group Update (Tony Knepp)
The SAC meetings will be held on Tuesday, Wednesday, and Thursday from 9 am to noon for the next few weeks. We are planning on going through the Columbia River Comprehensive Impact Assessment (CRCIA) appendices, and working out whether they are S&T needs or technical needs, or if they need to be in the initial assessment. We're working with the goal of defining the expectations for this first pass. It all comes down to the time frame of the group. We are hoping to have a plan for the first assessment, as well as the second. Going through the first effort will define what we need for the second as well. We hope to get this first stage of breaking down the CRCIA requirements done in the next six to eight weeks.

COMMENT: You are talking in terms of an overall framework for risk assessment.

RESPONSE: The idea is to have a model explaining what each aspect is and defining them. We'll go through the CRCIA and from that select what is possible to include in the initial assessment given the time frame. We will work from those expectations to create an internal understanding of what we want.

QUESTION: I see part of this getting back to integration concerns. The Hanford Tanks Initiative (HTI) put out the Retrieval Performance Evaluation (RPE) and the Expert Panel took a look at it. They said it was a good job that said the ultimate risk is somewhere between it's harmless to it will kill everybody. It is completely useless for a risk assessment. I know that your plan is to follow CRCIA. We are getting back to the controls that allow these kinds of documents to go out. What's the control? What's the authority? Where does the issue for who is in charge fit in? I see how the SAC will be vital to HTI, crib closure, and many other site wide programs. How does this all fit together? Does this Project have any real authority over HTI?

RESPONSE: You should stick around for the Policy Work Group meeting that follows this meeting. That's one of the main issues we're discussing now.

QUESTION: Is the SAC going to be useful to HTI, 200 area crib closure, tank pumping, etc.?

ANSWER: Yes, that's what we are hoping for.

QUESTION: You show three meetings this week. What modules are you planing to discuss?

ANSWER: The plan is to work on Risk all three days.

COMMENT: Last week there was one day of Inventory and one of Risk.

RESPONSE: Our hope is to close in three days on the Risk aspects.

COMMENT: Just for background on these work groups, three or four weeks ago Mike Hughes said we wouldn't succeed unless we could work as a group to solve some of the issues facing this Project. As a result, there were work groups formed for SAC, Policy, and Long Range Plan (LRP). The idea for these groups is to give anybody that wants to work a chance to become involved and have an impact on the outcome. The groups meet weekly, sometimes more often than that, and then report back to this main group here for review and discussion. It is up to the groups to work out the issues themselves, and then come back here to make reports on their progress. TWRS

questions are part of the issues being worked in these groups. Let the groups work out the solutions. This meeting is just a status report and an opportunity to integrate the process.

EXECUTIVE COMMITTEE MEETING UPDATE (MICHAEL GRAHAM): I'd like to take a minute to report on the Executive Committee meeting I just attended. This issue of authority was the principle topic. The problem is that you think you have general agreement on a subject, and then you don't. Rich Holten is forming a team with Fluor Daniel Hanford (FDH) and management to try to reach agreement in some level of detail on authority. It is still getting worked. Also, Jackson Kinzer said that there are challenges on LRP. That's work in progress. He said that this project manages that baseline.

OFFICE OF RIVER PROTECTION (ORP):

QUESTION: I have a question about this so called Office of River Protection (ORP). It apparently has no relation to this project. How do you characterize it? Is it a real organization?

ANSWER: The ORP is essentially what the Tank Waste Remediation System(TWRS) will become. There was a directive from DOE-HQ to come up with a new organization. We received an outline of the top level. Because the privatization piece will be very expensive, the objective was to raise it to a higher viability in order to obtain the funding to make it go. TWRS management has been working with the guidelines of DOE-HQ, and they will be reporting tomorrow on some of the details of what this organization will look like.

QUESTION: Has this been signed into law?

ANSWER: It was in Congress, and apparently it was close enough to being passed that DOE-HQ gave approval to hire four people for that privatization piece. I don't personally know who they are.

QUESTION: What is the relation to this Project?

ANSWER: The TWRS Vadose Zone, HTI, and Immobilized Low-Activity Waste (ILAW) will all be within this organization, but I don't know how it will end up. It is planned that the ORP will be related to this Project, and will report into this Project.

QUESTION: This creates a problem of whether the ORP or the SAC has the higher authority. This is entropy. Instead of creating order, we're getting more chaos.

QUESTION: The Office of River Protection? What happened to groundwater? Isn't that worth protecting anymore?

COMMENT: Something here is moving in the wrong direction. Things are less clear now than what they were, and they weren't very clear then.

COMMENT: This is like having too many cooks in the kitchen. I'm worried about the proverbial broth getting spoiled.

RESPONSE: This is Congressional help to DOE-RL. I know there was a meeting today, and there are discussions on how this whole thing is going to be implemented.

QUESTION: I had a talk with Congressman Hastings's office. If tank waste is to be a separate group, what happens to the wells, drains, etc.? If they take this out with TWRS, what happens to the other items in the 200 area?

ANSWER: My understanding is that this is legislation proposed by Congressman Hastings and will more or less only changes the name "TWRS" to the "Office of River Protection." It is essentially a reorganization and that is all.

COMMENT: It is a buzz word. The "Office of River Protection" sounds like it means something.

COMMENT: It appears to me that Congress is forcing you to lie to the public by implying in the name of the organization that it is something that it's not.

RESPONSE: It is still TWRS privatization. No different than now.

COMMENT: But then authority comes to this group from the Secretary of Energy, and that can create big problems.

RESPONSE: TWRS by any other name is still the tank remediation. Just remember that it's the tanks.

Long Range Plan (LRP) Work Group Update (Tom Wintczak)

The LRP Work Group has held two meetings so far. In the second meeting we went over the baseline and some of the basic assumptions. There are two meetings scheduled for this week. There are basically two main concerns at this point. One is the ability to communicate clearly the focus of this Project through the LRP. Another concern is that this group needs to understand specifically what it is we are working on.

We are trying to establish a baseline. The backbone of the Long Range Plan is the SAC, but we have to work within the existing and science and technology (S&T) capabilities. The idea is to try to bring this into a focused product by mid-November. There is no way that we are going to solve all the problems by then, but we want to flag them so they can go to the appropriate groups for resolution. The timing isn't as good as it could be, but it would be nice to have the S&T by January, with the SAC following a couple of months later. We need to get this going in order to be able to begin the overall planning.

There are currently several logics, and I'm trying to pull them all together into a generic logic. I'll ask the LRP Group to look at that and point out any obstacles or threats to the Project. We'll put together a logic and then verbalize why it is that way. We then intend to take the logic, incorporate that into the Strategy document, and then get that out for everybody to look at.

The main focus is on the SAC. There is an obvious need for a real system assessment, but the impact will come from this group because of the definition of time frames. Part of this is that it looks at the existing baseline and identifies the critical time that we need a capability to be able to make these comments.

COMMENT: Things are not standing still while that group goes on with their work.

RESPONSE: The LRP is a strategy to show where the critical decision making points are and to show the pathway.

COMMENT: I think the tank initiative is the first big test of this Project. Looking at it now, it is a good framework, but the data is flawed. I think that to truly make the decisions of the next few years, we need good info. HTI will be a good opportunity to define the information needed and to make some of the integration linkages.

SCIENCE AND TECHNOLOGY (S&T) (TERRY STEWART):
NOTE: This was in the form of a presentation with overheads. It was promised at the meeting that we would attach the presentation to the minutes but that is not possible due to software incompatibility. The text of the presentation is below, but there are some flowcharts and diagrams that have not been incorporated. If you would like an electronic version (MS Powerpoint file) or a printout of the presentation, please contact Karen Strickland at (509) 372-9236.

STATUS OF THE S&T PLAN
Path to Research Plan
(flowchart)

Evolution of S&T Plan to S&T Roadmap
S&T Plan
- Scientific Issues
- Research Themes

Plus the Long Range Plan
- Project strategy and priorities
- Targets of opportunity

Produces the S&T Roadmap
- Sequences and focuses S&T to meet Project priorities

Goals for a Hanford-specific Applied Science and Technology Program
Provide the knowledge base, understanding, data, and tools for:
- Assessing contaminant releases and fluxes through the physical system
- Evaluating associated impacts on human health and the environment

Questions Driving the Need for an Applied S&T Plan
- What is the current subsurface inventory and distribution of contaminants?
- How this inventory changes over time as a result of Hanford actions?
- What is the migration velocity of specific contaminants through the vadose zone and groundwater to the Columbia River?
- What is the potential magnitude of contaminant breakthrough to groundwater from the current contaminant distribution?
- What is the likelihood that radionuclides currently immobilized in-ground will remain so in the future?
- What are the optimal remediation strategies for deeply buried contaminants in the vadose zone?
- What are the cumulative effects to receptors from multiple groundwater contaminant plumes?

Integration of Project Specific Data Collection and S&T Required to Assess System (flowchart)

Underlying Planning Philosophy
- Use available data
- Build on past experience

- Work with existing wells and planned operations
- Consider systems assessment and individual projects
- Focus on key gaps

Inventory Task Team
- Stephen Agnew, LANL, Team Leader
- Larry Bustard, Sandia
- Doug Hildebrand, DOE-RL
- Charley Kincaid, PNNL
- John Murphy, DOE-RL
- Bruce Napier, PNNL

Inventory Scientific Issues
- Complete estimates of chemical and radiological containment concentrations, volumes, and timing of releases need to be considered holistically
- Model assumptions on distribution of contaminants among different waste processes and streams have not been extensively validated by measurement
- Models of containment distribution are not sufficiently focused on a prioritized list of key chemical and radionuclide contaminants
- Development of systems assessment capability involves integration of observations of contaminant distributions over a variety of spatial and temporal scales
- Knowledge of mechanisms and rates of waste release important for system assessment

Goals and Research Themes of the Inventory Technical Element
Goals
- Establish a consistent, site-wide inventory data set
- Validate contaminant concentration estimates based on knowledge of important chemical processes and contaminant fate/transport in environment

Research Themes
- Prioritized set of soils sites
- Prioritized lists of key contaminants
- Conceptual models of chemical processes and contaminant distribution
- Nuclide-specific inventories in tanks
- Inventory estimates for soils sites (constituents, volumes, timing constraints)
- Inventory release modes

Conceptual Model of Inventory Technical Element
(flowchart)

Inventory Research Themes
Prioritized set of soils sites
- Based on waste processes, hydrogeologic setting

Prioritized list of contaminants
- based on chemical form, half-life, site end-state

Conceptual models of chemical processes and contaminant distribution
- Accurate radiological and chemical estimates for each important process (e.g. waste for dissolution, solvent extraction, off-gas scrubbing, waste tank boiling, waste lank leaks)

Nuclide-specific inventories in tanks (e.g. tritium, technetium, iodine)
- Partitioning of elements among modeled processes for tank wastes

Inventory estimates for soils sites (constituents, volumes, timing constraints)
- Radiological and chemical

Inventory release modes
- Past and post-closure scenario development and assessment

Vadose Zone Task Team
- John Zachara, PNNL, Team Leader
- Susan Carroll, LLNL
- Don DePaolo, LBL
- Glendon Gee, PNNL
- George Last, PNNL
- Peter Lichtner, LANL
- Ernie Major, LBL
- Everett Springer, LANL
- Brian Vianni, LLNL
- Andrew Ward, PNNL

Vadose Zone Scientific Issues
- Spatial and depth distribution of inventory, its phase association and chemical speciation are not fully known
- In-situ chemical/physical/hydraulic properties of sediments are not well characterized
- Chemical and biologic reactions responsible for contaminant retardation, immobilization, and mobilization are insufficiently understood or lack data on key parameters
- Geohydrochemical effect such as chemical dissolution, clay dispersion, piping, colloid transport are not fully known
- Preferred hydrologic pathways are not well characterized
- Credible reactive transport models that include heterogeneity are not available

Goals and Research Themes of the Vadose Zone Technical Element

Goals
- Establish existing distribution of contaminants, their chemical/mineralogical/physical state, and migration potential
- Determine mechanisms for water and contaminant movement and role of controlling influences (e.g. in situ geologic/physical features, waste attributes)

Research Themes
- Field investigations of representative sites
- Laboratory studies of waste-sediment interaction processes
- Vadose zone study sites
- Flow and transport modeling
- Advanced vadose zone characterization

Vadose Zone Biogeochemistry Conceptual Model (diagram)

Conceptual Model of Fluid Flow Beneath Single Shell Tanks (diagram)

Vadose Zone Research Themes

Field investigations of representative sites

- Collaborative science with ongoing site characterization activities (TWRS, 200 Area cribs, etc.) to confirm conceptual models
- Physical, chemical, and mineralogic associates of contaminants in waste site sediments
- Reactive transport modeling of existing data sets from waste sites

Laboratory studies of waste-sediment interaction processes

- Extreme chemical environments
- Vadose zone flow regime
- Waste/sediment contact times

Vadose zone study sites

- Vadose zone test facility
- ER sites of opportunity

Flow and transport modeling

- Scaling and spatial heterogeneity
- Improved multiphase, multicomponent reactive transport models
- Uncertainties in model input parameters and output

Advanced vadose zone characterization

- In-situ physical and hydrologic properties
- Innovative geophysical and downhole techniques, modeling as a characterization tool
- Geophysics-structure and dynamics

Groundwater Task Team

- Brian Looney, SRTC, Team Leader
- Steve Carle, LLNL
- Tom Early, ORNL
- Susan Hubbard, LBNL
- Vern Johnson, PNNL

Groundwater Scientific Issues

- Waste volumes, waste chemistry, timing of waste disposal, and vadose zone transport are not fully characterized to provide accurate flux from vadose zone into groundwater
- Horizontal and vertical dimensions of contaminant plumes are not fully delineated
- Plume structure near Columbia River is important to characterize
- Variation in plume geometry due to important geologic features and temporal changes in recharge/migration can answer key questions
- Contaminant transport and impacts of non-aqueous phase liquids in aquifer are not fully described
- Innovative, low-cost characterization approaches to extending subsurface data are not routinely deployed

Goals and Research Themes of the Groundwater Technical Element

Goals

- Quantify flux and dynamics for vadose zone/groundwater
- Determine 3-d plume migration and discharge

Research Themes

- Vadose/groundwater interface studies
- Biogeochemical reactive transport
- Hydrogeological characterization science
- Regional plume geometry

- Multiscale 3-d model development
- Groundwater discharge studies

Conceptual Model for Groundwater (diagram)

Groundwater Research Themes
Vadose/groundwater interface studies
- Detailed soil/groundwater depth-discrete sampling
- C018H plume development study

Biogeochemical reactive transport
- DNAPL-transuranic site
- Transuranic at an injection well site
- Carbon tetrachloride biogeochemistry at depth

Hydrogeological characterization science
- Characterization at integrated hierarchal spatial scales
- Data interpretation, synthesis, visualization and integration with modeling

Regional plume geometry
- Field and 3-d imaging of regional plumes of tritium, technetium, strontium

Multiscale 3-d model development
- Multiscale modeling approach
- Site-wide scale models

Groundwater discharge studies
- Multilevel monitoring of shallow groundwater system near river

River Task Team
- Roger Dirkes, PNNL, Team Lead
- Terry Hazen, LBNL
- April James, LBNL
- Orrin Myers, ORNL
- Mike Ebinger, ORNL
- Greg Patton, PNNL
- Charlie Brandt, PNNL
- Marshal Richmond, PNNL
- Bob Peterson, CH2MHill

Columbia River Scientific Issues
- Types, amounts, and spatial locations of contaminants within and entering the Columbia River are not fully characterized
- Temporal variation in contaminant input at groundwater discharge sites is not fully characterized
- Extent of exposures of sensitive biota to contaminants is not known
- Toxicological impacts on exposed species are insufficiently understood
- Fate and transport modeling capabilities are not fully descriptive for the Hanford Reach

Goals and Research Themes of the Columbia River Technical Element
Goals
- Establish input of contaminants to river from groundwater, surface water, and atmosphere
- Determine exposure of different populations and impacts of exposure

- Establish extent of contaminant migration within food web

Research Themes

- Detailed and complete conceptual model
- Information management and use
- Characterization
- Groundwater-river interface
- Contaminant fate an transport
- Impact evaluation

Conceptual Model for River (diagram)

Columbia River Research Themes

Detailed and complete conceptual model

- Physical, chemical, biological processes
- Source of contaminant input
- Affected biota
- Effects of water management strategies

Information management and use

- Data mining and integration

Characterization

- Nature and extent of contamination of all components of river environment
- Spatial and temporal trends, pathways, habitat and biological species distribution

Groundwater-river interface

- Sampling and characterization innovations
- Flux and dynamics at aquifer/river interface

Contaminant fate an transport

- Tools and data for integrated assessment of contaminant fluxes

Impact evaluation

- Toxicity measures, exposure assessments, and dose response of biological populations

Interaction Between Individual Projects and S&T Within the Integration Project (diagram)

(End of presentation)

The draft plan will be coming out around the November 6, 1998 time frame, the LRP following, so there is an opportunity to link the S&T to it. It would culminate with a final draft plan coming out in the December time frame.

COMMENT: This project doesn't feel integrated at all. The National Labs are going out on their own, and I'm not sure they're even interested in the feelings of this group. I'm concerned that this plan might come up short. It might show some things really well but miss others completely. I just don't want it to get to far along before we have a chance to review and address it.

QUESTION: Did any members of the Expert Panel go to the National Lab meetings last week?

ANSWER: This was just a general meeting with the Lab management to follow up on our status. This wasn't intended for any members of the panel to attend. The National Labs were fully supportive

of the quality and content of the plan. We wanted them to see what we had come up with in terms of path forward.

QUESTION: So what is the role of the panel?

ANSWER: They weren't formed when this whole process started. They will get copies of the document and will have a chance to make comments.

QUESTION: If they concur or not concur, then what?

ANSWER: Comments will be taken from all interested parties, including the Expert Panel. We will identify all areas of disagreement and will seek to resolve them.

QUESTION: How will we integrate the process for the Remedial Field Investigations (RFIs) and data gaps for the TWRS VZ characterization with the recommendation from the S&T meetings and the experts with the respective labs?

COMMENT: We have a parallel process. We're setting milestones, sitting down with TWRS and identifying gaps, then putting together the overall RFI workplan and the work plans for the individual tank farms. I can see that there will be some problems with it.

RESPONSE: Our plan is to put together the work plans and include people like Steve Agnew in the process. We understand inventory is important.

COMMENT: I think it's possible that one of the vadose zone people can take part in this too. There are interface teams that come together for dialogue.

COMMENT: If this system assessment doesn't get moving, then these other things are going to get moving and get so far down the track that we're going to be playing catch up for a long time. The system assessment should be the driving force. We're sitting still while every thing else is moving.

COMMENT: We have a similar problem with the TWRS work and the ORP. There are multiple problems with integration of drilling wells and a whole bunch of other things. There are conceptual problems. There are fundamental problems. Take the RPE for example. There is a lag between the document and the time you will get good quality characterization data to validate. It sounds good to say you'll validate down the road, but historically there is a problem with doing that. Biases recycle from previous documents. Go out, get some solid data, and come up with one good document that shows risk and assessment, instead of recycling old documents because of lack of good field data.

COMMENT: It looks like there is a problem pulling together all of the projects and their different time lines.

<u>TPA/TWRS Vadose Negotiations Update (Jim Poppiti)</u>
We had a pre-negotiation meeting on October 7, and ran down a number of items. We established a time frame for the negotiations. We hope to have them complete by December 4. We established a negotiation team. We discussed the scope and expectations of what we expect out of the negotiations.

We realize that the things we agree to in the negotiations have to fit with the Integration Project. We discussed the timing surrounding the negotiations as they relate to the Project. Everyone understands that the LRP isn't due for release until December, but we are going to negotiate within that time frame.

We spent some time on the topic of how were are going to interact with the public (stakeholders, Tribes, etc.) to keep everyone up to speed. We thought we would use this Weekly Project Meeting, at least as a starting point, to share information and keep everyone up to date. We don't want this to be a one way street. We are looking for comments back as well to help us define things we might have forgotten or overlooked. We walked over the DOE positions of where we think we are in regards to the corrective action, both short and long term. We will give this group a more complete briefing next week. The first negotiation meeting is set for this coming Wednesday. There will be a lot more to tell you next Monday.

An agenda has been set for the first meeting. We will cover the regulatory framework of the negotiations. We didn't really close on the public involvement aspects, but we agreed at a minimum that we would use this meeting to update.

We discussed an agreement in principle, but we only covered a few high level items. We envision something straight forward and simple as the end product of these negotiations. The meat of the meeting will be TWRS; the HTI, ILAW, and Vadose Zone scope, schedule, and dollars and how they fit within the Integration Project and the TPA. That's the agenda for Wednesday.

QUESTION: Who is the team?

ANSWER: The core team for Ecology is Roger Stanley, Tony Valera, Stan Leja, and Suzanne Dahl-Crumpler.

COMMENT: We were thinking of adding Casey Ruud to the group because of his connection to the project.

RESPONSE: The DOE core members are Jim Poppiti, David Olson, George Sanders, Janice Williams, and Caroline Haas. We expect to bring in people as needed for certain detailed issues.

QUESTION: Is this negotiation happening as a result of a Corrective Action letter?

ANSWER: Yes.

COMMENT: So what we are talking about is what was the TWRS Vadose Zone Program Plan?

RESPONSE: Let me explain a little. I don't remember the date of the letter, but Ecology sent us a Resource Conservation Recovery Act (RCRA) Corrective Action letter pursuant to past tank leaks. We had discussions of whether the best way to handle it would be under the TPA or RCRA. We decided to proceed under the TPA, and we are going to negotiate the corrective action milestones under the TPA. There are basically two pieces. There are some corrective actions concerning how to mitigate the environment. An example would be to make sure all the boreholes are sealed better. At the same time, we'll look at what information we need to collect for additional corrective actions, while keeping in mind that whatever information we collect heads us in the direction of retrieval and disposal.

COMMENT: What I see here is a program that was started four years ago, but failed because of problems working with stakeholders, etc. Now it has become a high level Corrective Action negotiation.

RESPONSE: I wasn't here, so I can't comment on what happened four years ago.

QUESTION: Stan (Leja) is that your assessment?

COMMENT: Yeah, we had an ad hoc team three years ago. It produced a sort of outline for an RFI, and it was put on hold. Since then, we have put together an expensive administrative process for TWRS dovetailing it with CRCIA. So far, the technical work to understand the vadose zone hasn't made a lot of progress. Hopefully this TPA negotiation will get us going, at least on the TWRS side. However, the state is not prepared to do this indefinitely. We'll look at other regulatory avenues if this doesn't work. This is the initial regulatory driver. In about two weeks we can give you a good flavor and whether we will be close to meeting the December 4 time frame. We'll need Ecology and stakeholder buy-in to the RFI's.

QUESTION: Is there a system assessment driver for this? When does it start to drive? What was the system assessment behind the work to this point on vadose zone characterization?

COMMENT: It sounds like they're still defining it.

COMMENT: The cart is just so far ahead of the horse here.

RESPONSE: We have a lot of pieces. If you look at the next few months with the negotiation, what will come out of this will be some sort of integration plan. We will bring in the S&T and system assessment and weave together all this by December as best as we can. We're forced to be somewhat out of order to start work. It sounds like an integration problem, but it really is an integration opportunity. There are people that bring so much to the table that we don't have involved. At Yucca Mountain they made a lot of mistakes and as a result they had a lot of restarts. We need to get the Labs management focused on a global site program so that people aren't off following their own little agendas. We have a lot to get done by December, but we're hopeful that we can do it. It should benefit this Project immensely.

COMMENT: The perspectives I've gotten in the last couple of months are two fold. First, what do you do right now to mitigate future problems? Things like borehole packing problems, a relatively inexpensive ways that make sense, and other things like that. Second, there is a huge uncertainty. You need to collect information to drive the uncertainty down. The SAC is the other side of the coin. Even with the RPE you only reduce the uncertainty by one level of magnitude. Where is the best investment to drive down the uncertainty? I'm looking forward to working with Ecology to resolve these issues.

COMMENT: The RPE's largest area of uncertainty is receptors. Those are things that we will need to ultimately deal with within the project

COMMENT: Those are large order of magnitude variations.

<u>NATIONAL ACADEMY OF SCIENCES (NAS) PRESENTATION UPDATE (MICHAEL GRAHAM)</u>

Terri Stewart, John Zachra, and Michael Graham are going to San Francisco this week to meet with the NAS Board of Radioactive Waste Management. We have 45 minutes to introduce them to our Project. Michael's piece is on the Hanford problem in general and should take 15 minutes or less. We did a dry run with Kevin Crowley. Our goal is to paint the general picture, set the stage, and give a general overview of what the integration problems are. Terry Stewart will give a presentation on S&T issues, and John Zachara will give a presentation on site issues. The chairman of this board is Michael Kavanaugh, who is also a member of our Expert Panel.

QUESTION: Are any other people on this board familiar with Hanford?

ANSWER: This is one of the longest standing boards of the NAS. Most of the members are familiar with Hanford.

RESPONSE: They will spend about an hour for path forward to support us as a Project. The intent is to have them set up a committee under the NAS specifically for this Project. We had a discussion with the NAS, and they are behind it. They've seen the fragmentation at Hanford. We want to make sure that they want to help. We'll give them things to review. The idea for this meeting is introduce our Project and who we are. The meeting begins Thursday at 1:15 p.m. at Stanford.

QUESTION: Is this group going to replace the Expert Panel?

ANSWER: The intent is to have them work in conjunction.

RESPONSE: We'll provide a list of the members at our next meeting.

QUESTION: Who's paying for all of this?

COMMENT: The NAS role in the Project is funded from DOE-HQ.

<u>General Questions/Discussion</u>

QUESTION: What will happen to the TWRS Interagency Team? Is it getting turned over to this group along with the ORP? Where does the characterization plan fit?

ANSWER: What we'd like to do is piece this all into the Project. TWRS is definitely one of the major pieces. We'd prefer to use these Weekly GW/VZ Project Meetings as the forum so that we can deal with stakeholders as well in order to get as much input as possible, instead of having a separate team for TWRS. DOE had intended to talk to people individually, but if no one objects, we'd like to use this group.

COMMENT: That drops it in a hole. We had a team that was making progress and had a good document, but if we just disband we'll lose from six months to a year.

RESPONSE: From the beginning it was not intended to be a long term effort. Now would be a good time to get comments in writing.

COMMENT: Stan has the comments and is pulling them together. We will rewrite the plan and give it back to TWRS. That's the plan so far as I'm concerned. Hopefully, in about a month you'll have a plan with the flaws eliminated.

COMMENT: TWRS should have it's own group under the umbrella of this Project. If we need another working group, that's fine.

QUESTION: That takes me back to the ORP. How do they fit in?

RESPONSE: As far as I'm concerned, the TWRS pieces will still be a major parts of this Integration Project. It makes no sense to separate them. There may be questions with money, but they all need to be together, not separate projects.

QUESTION: Who has the authority? ILAW and HTI seem to be going off in their own directions even within TWRS.

RESPONSE: People recognize that those pieces within TWRS need to be brought together under one heading. Those pieces are now within one organizational chart, but they aren't truly integrated.

QUESTION: Where do you see the lines of authority?

ANSWER: The expectation from Mr. Wagoner and DOE-HQ is that this Project has the authority. The challenge is that we need some sort of baseline before we can go and make any sort of judgements. We have to have all the activities mapped out in a logical way. There are pieces that we are running on that need to be mapped. People are making different assessments and different models, and we need to pull it all together to make comments. We need to understand scope, drivers, and risk. Until then, it's hard.

OPPORTUNITIES FOR PROJECT PARTICIPATION:
See 6-Week Look Ahead Calendar (attached)

UPCOMING EVENTS:
See 6-Week Look Ahead Calendar (attached)

NOTE:
Groundwater/Vadose Zone Web Site location: http://www.bhi-erc.com/vadose

ATTACHMENT:
6-Week Look Ahead Calendar

ATTENDEES:
Marty Bensky, General Public
John Brodeur, Mactec-ERS
Bob Bryce, PNNL
Dru Butler, BHI
Don Clark, JAI Corp.
Dirk Dunning, Oregon Office of Energy
Marv Furman, DOE-RL
Dib Goswami, Ecology
Michael Graham, BHI
Mary Harmon, DOE-HQ
Barbara Harper, YIN
Doug Hildebrand, DOE-RL
Rich Holten, DOE-RL
Mike Hughes, BHI
Gary Jewell, BHI
Tony Knepp, BHI
Stan Leja, Ecology
Fred Mann, FDNW
Jim Poppiti, DOE-RL
Wade Riggsbee, YIN
Gordon Rogers, General Public
Casey Ruud, Ecology
Ron Skinnarland, Ecology
Ron Smith, PNNL
Stan Sobczyk, NPT
Phil Staats, Ecology
Terri Stewart, PNNL
Dan Tyler, Freestone
Janice Williams, PHMC
Tom Wintczak, BHI

Attachment 1

6-WEEK LOOK AHEAD

OCTOBER 19, 1998 - NOVEMBER 30, 1998

GW/VZ INTEGRATION PROJECT

October 19	Weekly Project Status Meeting 1:00 p.m. - PNNL - ETB - Columbia River Room
October 22	HAB Environmental Restoration Committee Meeting 9 a.m.-4 p.m. - BHI Assembly Room
October 26	Weekly Project Status Meeting 1:00 p.m. - PNNL - ETB - Columbia River Room
November 2	Weekly Project Status Meeting 1:00 p.m. - PNNL - ETB - Columbia River Room
November 3-4	Health of the Hanford Site Conference Richland, WA - Double Tree Hotel
November 5	Public Meeting on Spent Nuclear Fuels Project 7:00 p.m. - Double Tree Hanford House - Columbia & Benton Rooms
November 5-6	HAB Meeting Double Tree Hanford House - Columbia & Benton Rooms
November 9	Weekly Project Status Meeting 1:00 p.m. - PNNL - ETB - Columbia River Room
November 12	Tri-Party Agreement Public Forum - Spent Nuclear Fuels 7:00 p.m. - Portland, OR - State Office Building
November 13	Groundwater Model Consolidation - Technical detail discussion “Geology Framework” 8:30 a.m. to 12:00 p.m. - PNNL - EESB - Snoqualmie Room
November 16	Weekly Project Status Meeting 1:00 p.m. - PNNL - ETB - Columbia River Room
November 17-18	Year-End Project Review with DOE-HQ
November 19-21	GW/VZ Expert Panel Meetings Richland, WA
November 23	Weekly Project Status Meeting 1:00 p.m. - PNNL - ETB - Columbia River Room
November 30	Weekly Project Status Meeting 1:00 p.m. - PNNL - ETB - Columbia River Room